**Meeting Date/Time:** November 18, 1994/0830

**Meeting Location:** Advanced Sciences, Inc (ASI), Lakewood, CO

**Meeting Subject:** Data Aggregation for Human Health Risk Assessment, Operable Unit No 5, Rocky Flats Environmental Technology Site

**Attendees:**

| Name | Affiliation |
|---|---|
| Carol Bicher | EG&G |
| Sherry Boboricken | ASI |
| Win Chromec | EG&G |
| Doug Dennison | ASI |
| Fred Duncan | Dames & Moore |
| Mary Lee Hogg | ICF Kaiser |
| Scott Hollowell | EG&G |
| Tim Howell | DOE/RFFO |
| Paul Jordan | ASI |
| Mike Kelly | Dames & Moore |
| Bonnie Lavelle | EPA |
| Frazer Lockhart | DOE/RFFO |
| Ed Mast | EG&G |
| Kurt Muenchow | DOE/RFFO |
| Diane Niedzwiecki | CDPHE |
| Mary Siders | EG&G |

Copies of materials that were handed out during this meeting are attached

**Introduction-** C Bicher restated the purpose of this meeting, outlined the steps of the data aggregation process agreed to by DOE, EPA and CDPHE (see Attachment 2), and described those steps to be completed during this meeting

**P. Jordan** - Discussed the presentation of data and the types of information that can be presented using ArcView Presented the five source areas agreed to by DOE, EPA and CDPHE during the meeting held October 21, 1994

**F. Duncan** - Discussed the results of the CDPHE screen for each OU5 IHSS IHSSs (source areas) 115/196 and 133 scored in the 300 to 3,000 range, the South Interceptor Ditch (SID)/Pond C-2 source area scored approximately 40, and the Woman Creek/Pond C-1 source area scored approximately 400 in this screen The Surface Disturbance South of the Ash Pits scored less than 1 0 in the screen The Surface Disturbance West of IHSS 209 scored approximately 2 based on

a single elevated activity (5 01 pCi/g) of plutonium-239/240 (Risk ratios were not calculated for IHSS 209, because only calcium was present in concentrations exceeding background mean plus two standard deviations ) Based on the results of the CDPHE screen, proposed three areas of concern (AOCs) - 1) IHSS 155/196, 2) IHSS 133, and 3) the entire Woman Creek drainage which includes the SID/Pond C-2 and Woman Creek/Pond C-1 source areas

**F. Duncan** - Presented the IHSS 133 AOC with contaminants of concern for all media plotted This area is approximately 26 acres Proposed the placement of three 10-acre grid cells (based on residential exposure scenario) as shown in Attachment 3

**M.L. Hogg** - Questioned where the groundwater sampling locations were in respect to the proposed grids This is important in that it appears that groundwater will be driving the risk assessment in the IHSS 133 area

**F Duncan** - All groundwater sampling locations are within the southeastern-most grid cell where concentrations exceeding PRGs for all media occur

**B. Lavelle** - Agreed that this grid placement looks reasonable but expressed a desire that the risk assessment be performed over all three grid cells

**F Duncan** - Responded that the risk assessment for other exposure scenarios will encompass the entire source area

**D Niedzwiecki** - Agreed that the grid placement looks reasonable but would like to look at the data used for this analysis prior to making a final decision

**C. Bicher** - Responded that all of the raw data for OU5 samples are contained in Technical Memorandum No 15 (TM15) and that cleaned-up data could be provided if requested

**F. Duncan** - Presented the IHSS 115/196 AOC with contaminants of concern for all media plotted This area is also approximately 26 acres Discussed the presumptive remedy approach to the landfill and that a preliminary comparison to MCLs indicates that the presumptive remedy will be a likely alternative Proposed the placement of three 10-acre grid cells (based on residential exposure scenario) as shown on attached figure to be used if a traditional risk assessment is required

**M L. Hogg** - Questioned how much risk assessment will be required for the presumptive remedy of the Original Landfill (IHSS 115/196)

**B. Lavelle** - If groundwater data indicate that MCLs have been exceeded in groundwater at the landfill, then no additional risk assessment is needed. Agreed with proposed grid placement, if a traditional risk assessment is required

**D. Niedzwiecki** - Agreed with EPA's conclusion, but would like to confirm this with Joe Schieffelin, CDPHE

**K. Muenchow** - Stated that the presumptive remedy approach has been agreed to by the agencies

**D Niedzwiecki** - Agreed, but wants to ensure that the residual risk at IHSS 115/196, after the presumptive remedy has been implemented, is evaluated

**F Duncan** - Presented the Woman Creek drainage AOC with contaminants of concern for all media plotted

**K. Muenchow** - Clarified that the portion of the SID that is within the IHSS 115/196 AOC will be treated within the IHSS 115/196 AOC It is likely that this portion of the SID will be eliminated by the presumptive remedy alternative

**B. Lavelle** - Questioned whether there are any concentration gradients apparent within the stream drainage Also questioned whether it would be reasonable to include portions of the drainage within another AOC

**M.L Hogg** - Clarified that Woman Creek, the SID, and Ponds C-1 and C-2 would be treated as a single AOC, however, it will be possible to add any exposure resulting from this AOC to that for another AOC

**F. Duncan** - Presented data for the area immediately surrounding Pond C-1 This is the only area where PRGs were exceeded for any media The PRGs were exceeded for several radionuclides in groundwater samples from the two monitoring wells downgradient of the pond

**B Lavelle** - Requested that data for pond sediments from Pond C-1 also be displayed

**F. Duncan** - Presented the data for pond sediments

**M L. Hogg** - Suggested that the risk resulting from groundwater be calculated and shown separately but not added to the residential scenario risk because a groundwater receptor does not exist

**B Lavelle** - Agreed that this approach is reasonable

**F. Duncan** - Suggested that the risk assessment could also focus on the Pond C-1 reach of Woman Creek as well as on the entire drainage

**B. Lavelle** - Agreed but it must be recognized that the decision for the entire drainage will be based on decisions made for the Pond C-1 reach

**M L. Hogg** - Discussed that for the purposes of the FS, the risk for the entire drainage will have to be evaluated

**B. Lavelle** - Questioned whether the agencies will have input to the decisions made during this process

**K. Muenchow** - Responded that the agencies will be involved in subjective decisions made during this process

**D. Niedzwiecki** - Questioned how the SID and Pond C-2 will be handled

**M L. Hogg** - Responded that the data for the SID and Pond C-2 will be included in the risk assessment for the Woman Creek drainage AOC

**F Duncan** - Discussed that the Woman Creek drainage AOC does not lend itself to the placement of grids Proposed that risk posed by this AOC be evaluated using a residential-recreation scenario in which receptors receive intermittent exposure

**B. Lavelle and D Niedzwiecki** - Agreed that this approach is reasonable

**F. Duncan** - Presented the Surface Disturbance West of IHSS 209 source area with contaminants of concern for all media plotted Discussed that the only exceedance of a PRG was for plutonium-239/240 (5 01 pCi/g) in one surface soil sample All other surface soil samples from this area had activities of plutonium-239/240 in the 0 26 pCi/g range Proposed that this area be treated in the uncertainty analysis portion of the risk assessment

**B. Lavelle** - Questioned what this approach will entail

**F. Duncan** - Clarified that when the data for this source area are aggregated, the risk will be less than $10^{-6}$

**B. Lavelle** - Suggested that decisions on this source area may be more relevant to the FS

**D. Niedzwiecki** - Stated that Joe Schieffelin will need to make any decision regarding this source area

**E Mast** - Discussed that additional investigation of this area is being conducted as part of the implementation of TM15 This investigation consists of HPGe surveys of the area and, if necessary, FIDLER surveys and additional surface-soil sampling Also discussed that a

preliminary HPGe survey was conducted at the location where the surface soil sample with the relatively high activity of plutonium-239/240 was collected This survey was performed several months after the sample was collected and did not indicate above-background activities of any radionuclides at this location

**B. Lavelle** - Agreed that this area does not appear to be a problem and that the approach proposed is reasonable Discussed that EPA's review of the COC TM is in progress but that it is not likely that any changes in COCs will result in modification to the AOCs or grid placement

**C. Bicher** - Discussed that the amount of data to be included for the Pond C-1 reach of the Woman Creek drainage AOC needs to be discussed further

**D Niedzwiecki** - Questioned whether there will be enough data to evaluate this area statistically

**M L. Hogg** - Responded that if there is insufficient data to calculate UCLs, then it is possible to use maximum concentrations for each COC

**C Bicher** - Suggested that this issue, along with comments on the COC TM, be discussed in a follow-up meeting A meeting date of December 7, 1994 at 8 30 a m. was agreed to This meeting will be held at ASI's Lakewood Office

**Summary** - The following AOCs were agreed to, pending confirmation by CDPHE (see enclosed figures, Attachment 3)

1 The IHSS 133 AOC,
2 The IHSS 115/196 AOC including the portion of the SID present in this area, and
3 The Woman Creek drainage AOC, including Woman Creek, the SID outside of the IHSS 115/196 AOC, Pond C-1, and Pond C-2

**Additional Discussions -**

- A meeting date of December 7, 1994 was agreed to for the meeting to further discuss data aggregation This meeting will be held at ASI's Office (405 Urban Street, Suite 401, Lakewood) beginning at 8 30 a m